REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 11-20 were rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite. Applicants respectfully traverse.

The Examiner has apparently misunderstood Applicant's prior argumentation concerning the term "identical". The term "identical" refers to the constitution of the modules, i.e. the size, and nothing else. The word "identical" does not refer to the chambers.

In view of the foregoing, it is respectfully requested that this rejection be withdrawn.

Claims 11-20 were rejected under 35 U.S.C. §103(a) for allegedly being unpatentable under 35 U.S.C. §103(a) over Love in view of Shinohara. Applicants respectfully traverse.

Love discloses a large scale vacuum deposition device for coating substrates. This device comprises a working chamber. The figures of Love show two isolation chambers 72, 74 positioned next to the process chamber 70. Adjacent to these isolation chambers 72, 74 are an exit chamber 32 and an entrance chamber 30. The glass substrates are arranged back-to-back on a carrier 14. This carrier 14 is moved through the chambers 30, 32, 72, 74 and the process chamber 70. The substrates themselves are not moved through the chambers. The size of the substrates is thereby limited by the size of the carrier 14.

According to Love "the chamber (i.e. chambers 30, 32) is slightly longer than the racks 14 and defines the maximum length of glass light which can be handled by the facility 10 (in the illustrated construction about 12 feet)", compare col. 6, line 67 to col. 7, line 2 of Love. The chambers 72, 74 have a length of 16 feet and are thus only little longer than the chambers 30, 32 (compare col. 11, line 11).

The substrates first have to be moved in the chamber 30 before they can be moved into chamber 72 (see figure 1). Thus, the substrate cannot be longer than the chamber 30.

Therefore, a person skilled in the art has no motivation to provide a substrate longer than the chamber 30 or 32, respectively.

In fact, Love teaches a well-established sputtering device having entrance chambers and exit chambers. This device with such chambers 30, 32 has to have isolation chambers. It is important that the substrate has to first move into the chamber 30. This chamber 30 comprises two doors 44, 86 which act as pressure doors.

It is not possible to coat a substrate which is larger than the chamber 30, so Applicant will explain the function of this coating device diselosed by Love in the paragraph that follow.

Before the carrier with the substrates moves into the chamber 30, the pressure door 84 is closed so that the low pressure in the chamber 72 is maintained, since the carrier comes from outside the coating device. After the carrier has entered the chamber 30, the door 44 is closed and the chamber 30 is then evacuated.

Next door 110 of the chamber 72 is closed and door 84, which is arranged between the chambers 30 and 72 (compare figures 1 and 3), is opened. Because the pressure in chamber 30 is still higher than in chamber 72, the air of the chamber 30 expands in chamber 74. The volume ratio of access chamber 30 to that of the isolation chamber is 1 : 4, i.e. the pressure drop is 80 %. The pressure is thus relatively near to the original isolation chamber pressure (col. 11, lines 11 to 20). Such a pressure drop is possible because chamber 74 has a fivefold volume compared with chamber 30.

To further reduce the pressure in chamber 30, chamber 72 has a pressure which is lower than the pressure in process chamber 70 (see col. 5, lines 39 to 43). Then, carrier 14 is moved into chamber 74 and door 84 is closed. Chamber 74 is evacuated and door 110 is opened so that the carrier can move into process chamber 70. In process chamber 70 the carrier and the substrates is moved continuously.

In order to now move the substrates through the device disclosed by Love, which are longer than chambers 30,32 or chambers 72,74, door 84 has to be open all the time or it has to be

omitted. If a substrate of such length was introduced into the device according to Love, the process would be as follows.:

Door 44 is opened and door 110 closed (compare figure 1), whereby the door 84 is kept opened at any time or it has to be omitted. Then the long substrate, being positioned on a carrier, is moved into chambers 30 and 72. Door 44 is closed and chambers 30 and 72 are evacuated. After chambers 30 and 72 have been evacuated, door 110 is opened and substrate is moved into process chamber 70. Then door 110 is closed again.

However, if the substrate enters chamber 70, the pressure will rise, since the pressure in chambers 30 and 72 is higher than in chamber 70. Thus, chamber 70 has to be evacuated again to obtain an appropriate pressure. Though a vacuum pump is arranged for evacuating the chamber 70, the pump program for controlling the vacuum pumps has to be adapted to the altered sputtering device in order to obtain a vacuum as for the sputtering device according to presently pending claim 11.

However, altering the pump program for the vacuum pump would not be obvious, since Love does not disclose to provide a pump program for sputtering long substrates. This, however, costs time and is, compared with the process disclosed by Love, unfavorable. A person skilled in the art would thus not come to the idea of using the device of Love for sputtering long substrates.

Even if a person of skill in the art would somehow have the idea of using the device of Love for sputtering long substrates, this would not be obvious, since he would have to rearrange the device of Love. For instance, door 84 (figure 1) would have to be omitted, and a special pump program would have to be provided.

Shinohara discloses a substrate treatment apparatus comprising treatment chambers (301 and 303) and buffer chamber (302) having an exhaust system (306b) independent of substrate treatment chambers (301, 303). Gas inlets are respectively provided for the connection

tubes (304a and 304b) which are provided between the substrate treatment chamber (301, 303) and the buffer chamber (302), as can be seen in figure 3 of Shinohara.

Gas (308) for treating a substrate flows from connection tube (304a) into substrate treatment chamber (301) and buffer chamber (302), while gas (309) for treating a substrate flows from connection tube (304b) into substrate treatment chamber (303) and buffer chamber (302). Thus, the gas does not move from the substrate treatment chamber to the buffer chamber against a gas flow. Thus, separation between ambiences is provided by Shinohara.

Only the embodiment of figure 6 of Shinohara is even relevant to the presently claimed invention (embodiment 4), because this embodiment refers to the treatment of a glass substrate in a batch type plasma CVD apparatus (page 4, paragraph 100361).

In view of the foregoing, it is believed that all rejections should be withdrawn.

Allowance is respectfully requested.

The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-0624, under Order No. NY-SANZ-254-US.

Respectfully submitted,

FULBRIGHT & JAWORSKI L.L.P.

By _____
James R. Crawford
Reg. No. 39,155

666 Fifth Avenue
New York, NY 10103
(212) 318-3148